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| 10/727,714 | 12/05/2003 | Ju-hyung Kim | 1568.1081 | 6907 |
| 49455 | 7590 | 09/20/2006 | EXAMINER | |
| STEIN, MCEWEN & BUI, LLP 1400 EYE STREET, NW SUITE 300 WASHINGTON, DC 20005 | | | WALKER, KEITH D | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1745 | |

DATE MAILED: 09/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/727,714

Applicant(s)

KIM ET AL.

Examiner

Keith Walker

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12,13,15-17,20,21,27,28,35 and 36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12,13,15-17,20,21,27,28,35 and 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Remarks

Claims 12, 13, 15-17, 20, 21, 27, 28, 35 & 36 are pending examination.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 27 & 28 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 26 & 35-37 of copending Application No. 10/737,837. Although the conflicting claims are not identical, they are not patentably distinct from each other because they both claim a can housing an electric generation element with a safety device, a plate attached to a first surface of the can, and a lead unit electrically connecting the first terminal and the second terminal through the safety device. The lead comprises a first material with a cladding of a second material.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 12, 13, 15-17, 20, 21, 27, 28, 35 & 36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Regarding claim 12, the limitation “a safety device electrically coupled to the output lead to interrupt current to the output lead...” is not supported by the specification. Since the lead is directly attached to the terminal and the safety device is attached to the other side of the lead, the current is not interrupted going to the lead but at the other end of the lead, as illustrated by applicant's drawings. In other words, the current is interrupted between the “an output lead” and “a first lead”, which respectively connect the second terminal to the first terminal. Claims depending from claims rejected under 35 USC 112, first paragraph are also rejected for the same.
3. Claim 36 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which

Art Unit: 1745

was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitations are not supported by the specification. The specification and drawings of the instant application describe a protective circuit located between a lead attached to a second terminal and the output lead, not the protective circuit directly connected to the terminal and the output lead.

4. Claim 13 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the can to be made from aluminum or nickel, does not reasonably provide enablement for the can to be made from materials different from either of the first or second materials that make up the first lead. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. The specification exemplifies the can only being made from aluminum and the leads being from aluminum and nickel, therefore the can is made from one of the two components making "a first lead".

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what components are made of what materials. In claim 13, which claim 21 depends, the can material is different from the two materials of

Art Unit: 1745

the first lead, which comprise a first material and a cladding of a second material. In claim 21 the can comprises a first material, which is the same as the material of the first lead.

6. Claim 21 recites the limitation "the second lead" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Objections

7. Claim 21 is objected to because of the following informalities: The statement "The lithium battery of Claim 13, wherein, where the can..." is awkward and the removal of the word "where" is suggested. Appropriate correction is required.

8. Claim 21 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. It is unclear what components are made of what materials. In claim 13, which claim 21 depends, the can material is different from the two materials of the first lead, which comprise a first material and a cladding of a second material. In claim 21 the can comprises a first material, which is the same as the material of the first lead.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1745

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 12, 13, 17, 20, 21, 27, 28 & 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,492,058 (Watanabe) in view of US Patent 5,976,729 (Morishita) and as evidenced by US Patent 5,188,909 (Pedicini).

Watanabe teaches using a positive temperature coefficient (PTC) safety device between the terminals (Fig. 10, 15; 8:43-49). The PTC protects the battery by restricting the flow of current when the temperature increases and a rapid increase in the voltage will cause the battery to heat up. A protection circuit is used in conjunction with the PTC to aid in preventing the over-charging and over-discharging (Fig. 1 & 2; 1:13-20). The protection circuit is connected to the safety device and the second terminal (8:65 – 9:5). The intermediate product, as taught by Watanabe is a lithium battery with a safety device located on the exterior of the battery with one end of the lead disposed at a terminal and the other end connected to the safety device (Figs. 1, 2, 10).

Regarding claims 27 & 28, the claims are seen as product-by-process and even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process (MPEP 2113). The method of forming the weld is not germane to the issue of patentability of

Art Unit: 1745

the device itself and therefore this limitation has not been given patentable weight.

Watanabe teaches spot-welding the materials together, producing an end product that has been welded.

Watanabe is silent to the materials used for the leads and the housing.

Like Watanabe, Morishita teaches a lithium ion cell with an external protective circuit for controlling the cell voltage to prevent overcharge and over-discharge (1:10-15). The lithium cell has a first surface of the outer can and a second surface being the lid (4:1-16). It is obvious to one skilled in the art to attach one electrode to a first surface of the case and the opposite electrode to a second surface to make a battery with external contacts, as evidenced by Pedicini (5:52-66). The outer can be made from aluminum alloy and the lead is made from a first material nickel and a second material of aluminum (5:30-38). The components are welded together using ultrasonic welding (2:37-40). Further, Morishita teaches the use of different materials in the making of the leads with alternate welding techniques. As stated above, the outer can and lead are made of the same material and attached using ultrasonic welding so a smaller heat value is required, thereby preventing the occurrence of pinholes and cracks (2:37-53). Two-layer cladding for the lead plate is also used for current utilization (5:22-27). So regarding the different first and second materials used as leads, the use of multiple materials is taught and it would have been obvious to one having ordinary skill in the art at the time the invention was made to pick lead materials based on the use in the battery and the style of welding needed. It is held to be within the general skill of a

worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice (*In re Leshin*, 125 USPQ 416).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the lithium cell of Watanabe with the battery casing and lead material of Morishita to understand what materials should be used for the leads in the production of the lithium battery with a protective device.

10. Claims 15 & 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,492,058 (Watanabe) as applied to claim 12 above, and further in view of US Patent 5,188,909 (Pedicini).

The teachings of Watanabe as described above are incorporated herein.

Watanabe is silent to the use of a safety vent.

Pedicini teaches sealing the opening of the battery with a cap assembly that has a vent for the cell (5:52-66).

The motivation to use a cap with a vent is to provide a means for the expulsion of any internal gas pressure created by the battery. The pressure will not only cause a decline in the effectiveness of the battery but can cause the battery to rupture.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the battery of Watanabe with the cap vent to promote a safer and more efficient battery.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues the combination of any references presented, i.e. Wantanabe and Morishita, do not obviate the instant invention. Applicant argues the structural differences between the references are too great to combine the two prior arts. The vast differences are not seen since both deal with similar batteries having similar safety devices on the outside of the battery to protect from overcharge and over discharge. Furthermore, it appears the references are argued individually since the combination of the references is not argued and in arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant argues Morishita does not teach having a lead with two different materials on either side of the PTC device. This feature is not claimed in the instant claims. While the output lead is made of a first material and the first lead also has a first material with a cladding of a second material, since the claims are "comprising", the "output lead" may also comprise other materials. The claims do not expressly claim the "output lead" being different from the "first lead", just that the "first lead" has an added cladding layer, which is present in the prior art.

Applicant argues a "unique multi-level structure" is not present in the prior art; however, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., unique multi-level structure) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith Walker whose telephone number is 571-272-3458. The examiner can normally be reached on Mon. - Fri. 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

K. Walker


PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER